IN THE CLAIMS:

1. (Currently Amended) A system for controlling motion of an object, the system comprising:

a motion device which is operable to move the object;

a motion control system which is coupled to the motion device, wherein the motion control system includes a processor and a memory medium, wherein the memory medium stores a motion control software program, wherein the motion control software program is executable by the processor to:

determine a placement of pulses for each of a plurality of time intervals ~~such that~~, wherein the pulses are placed evenly across the plurality of time intervals, wherein the quantity of pulses in each of the time intervals is variable; and

generate the pulses across the time intervals according to the determined placement to drive the motion device to move the object.

2. (Original) The system of claim 1,

wherein in determining the placement of pulses for each of the plurality of time intervals, the motion control software program is executable by the processor to:

determine a placement of pulses for a first time interval at a first rate of pulse generation per time interval, the first rate having a value of 1 plus an integer portion of a desired fractional rate of pulse generation per time interval; and

determine a placement of pulses for a second time interval following the first time interval at a second rate having a value of the integer portion of the desired fractional rate of pulse generation.

3. (Original) The system of claim 1,

wherein in determining the placement of pulses for each of the plurality of time intervals, the motion control software program is executable by the processor to:

use a delay to place each pulse at an arbitrary location within one of the time intervals.

4. (Original) The system of claim 1,

wherein the time intervals are variable in length.

5. (Original) The system of claim 1,

wherein the time intervals are fixed in length.

6. (Original) The system of claim 5,

wherein in determining the placement of pulses for each of the plurality of time intervals, the motion control software program is executable by the processor to:

change a pulse rate within one of the time intervals.

7. (Original) The system of claim 1,

wherein the motion device comprises a stepper motor.

8. (Original) The system of claim 1, further comprising:

a power drive which is coupled to the motion device and the motion control system, wherein the power drive is operable to:

receive the pulses from the motion controller;

translate the pulses into power signals; and

send the power signals to the motion device.

9. (Original) The system of claim 1,

wherein the motion control system comprises:

a computer system; and

a motion controller.

10. (Currently Amended) A method for controlling motion of an object, the method comprising:

determining a placement of pulses for each of a plurality of time intervals ~~such that,~~ wherein the pulses are placed evenly across the plurality of time intervals, wherein the quantity of pulses in each of the time intervals is variable; and

generating the pulses across the time intervals according to the determined placement to drive a motion device to move an object.

11. (Original) The method of claim 10,

wherein the determining the placement of pulses for each of the plurality of time intervals further comprises:

determining a placement of pulses for a first time interval at a first rate of pulse generation per time interval, the first rate having a value of 1 plus an integer portion of a desired fractional rate of pulse generation per time interval; and

determining a placement of pulses for a second time interval following the first time interval at a second rate having a value of the integer portion of the desired fractional rate of pulse generation.

12. (Original) The method of claim 10,

wherein the determining the placement of pulses for each of the plurality of time intervals further comprises:

using a delay to place each pulse at an arbitrary location within one of the time intervals.

13. (Original) The method of claim 10,

wherein the time intervals are variable in length.

14. (Original) The method of claim 10,

wherein the time intervals are fixed in length.

15. (Original) The method of claim 14,

wherein the determining the placement of pulses for each of the plurality of time intervals further comprises:

changing a pulse rate within one of the time intervals.

16. (Original) The method of claim 10,

wherein the motion device comprises a stepper motor.

17. (Original) The method of claim 10,

wherein the motion device is coupled to a motion control system, wherein the motion control system includes a processor and a memory medium, and wherein the memory medium stores a motion control software program.

18. (Original) The method of claim 17,

wherein the motion control system comprises:

a computer system; and

a motion controller.

19. (Original) The method of claim 17,

wherein a power drive is coupled to the motion device and the motion control system, and wherein the power drive is operable to:

receive the pulses from the motion controller;

translate the pulses into power signals; and

send the power signals to the motion device.

20. (Currently Amended) A carrier medium comprising program instructions for controlling motion of an object, wherein the program instructions are executable by a motion control system to implement:

determining a placement of pulses for each of a plurality of time intervals ~~such that~~, wherein the pulses are placed evenly across the plurality of time intervals, wherein the quantity of pulses in each of the time intervals is variable; and

generating the pulses across the time intervals according to the determined placement to drive a motion device to move an object.

21. (Original) The carrier medium of claim 20,

wherein the determining the placement of pulses for each of the plurality of time intervals further comprises:

determining a placement of pulses for a first time interval at a first rate of pulse generation per time interval, the first rate having a value of 1 plus an integer portion of a desired fractional rate of pulse generation per time interval; and

determining a placement of pulses for a second time interval following the first time interval at a second rate having a value of the integer portion of the desired fractional rate of pulse generation.

22. (Original) The carrier medium of claim 20,

wherein the determining the placement of pulses for each of the plurality of time intervals further comprises:

using a delay to place each pulse at an arbitrary location within one of the time intervals.

23. (Original) The carrier medium of claim 20,

wherein the time intervals are variable in length.

24. (Original) The carrier medium of claim 20,

wherein the time intervals are fixed in length.

25. (Original) The carrier medium of claim 24,

wherein the determining the placement of pulses for each of the plurality of time intervals further comprises:

changing a pulse rate within one of the time intervals.

26. (Original) The carrier medium of claim 20,

wherein the motion device comprises a stepper motor.

27. (Original) The carrier medium of claim 20,

wherein the motion control system comprises:

a computer system; and

a motion controller.

28. (Original) The carrier medium of claim 27,

wherein a power drive is coupled to the motion device and the motion control system, and wherein the power drive is operable to:

receive the pulses from the motion controller;

translate the pulses into power signals; and

send the power signals to the motion device.